(19) World Intellectual Property Organization International Bureau



1 (1941) ENGLES (N 1951) (1954) ENGLES (1951) ENGLES (N 1951) ENGLES (1951) ENGLES (19

(43) International Publication Date 18 November 2004 (18.11.2004)

PCT

(10) International Publication Number WO 2004/099326 A3

(51) International Patent Classification⁷: C07F 7/18, C08G 77/14

C09D 5/16,

(21) International Application Number:

PCT/EP2004/004997

(22) International Filing Date:

7 May 2004 (07.05.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 03252855.6

7 May 2003 (07.05.2003) El

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

(88) Date of publication of the international search report: 6 May 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SILYL ESTERS, THEIR USE IN BINDER SYSTEMS AND PAINT COMPOSITIONS AND A PROCESS OF PRODUCTION THEREOF

(57) Abstract: The use of an organosilyl ester as an alkaline hydrolysis or erodability booster for the binder system of a paint formulation is described. The booster is used in paint formulations which require hydrolysis of one or more of the components of the paint in use. The organosilylesters of the invention may also independently be film forming. The organosilyl ester may be the ester of a carboxylic, sulphonic or phosphoric acid. The binder systems of the invention can be used in paint compositions, such as self-polishing antifouling paints.



INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/004997

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C09D5/16 C07F7/18 C08G77/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

Category °	Citation of document, with Indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	EP 1 308 484 A (SIGMA COATINGS BV) 7 May 2003 (2003-05-07) abstract paragraphs '0014! - '0017!, '0025!, '0034!	1,3-5, 14,23,24
X,P	page 5, line 3 & WO 03/037999 A (SIGMA COATINGS BV) 8 May 2003 (2003-05-08) cited in the application	1,3-5, 14,23,24
X	EP 1 295 888 A (SIGMA COATINGS BV) 26 March 2003 (2003-03-26) abstract	16
X	paragraphs '0001!, '0014! & WO 03/027124 A (SIGMA COATINGS BV) 3 April 2003 (2003-04-03) cited in the application	16

X Further documents are listed in the continuation of box C.	Patent family members are listed in annex.
 Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the international search 	 "T" later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family
9 February 2005	Date of mailing of the international search report 17/02/2005
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Authorized officer Girard, Y

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/004997

C.(Continua	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	1017 E1 20047 004337		
Category °	Citation of document, with Indication, where appropriate, of the relevant passages	Relevant to cla	aim No.	
A	WO 00/77102 A (ELBRO HELLE SIMON ; GLADWIN TIM SCOTT (DK); BUCHWALD FRANTS (DK); H) 21 December 2000 (2000-12-21) abstract	1,6-	8,12	

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/004997

				PC1/1	£P2004/00499/
Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 1308484	Α	07-05-2003	EP	1308484 A1	07-05-2003
			BR	0213559 A	26-10-2004
			CA	2462927 A1	08-05-2003
			EG	23246 A	29-09-2004
			WO	03037999 A1	08-05-2003
			EP	1448723 A1	25-08-2004
			HR	20040434 A2	31-08-2004
					J1 00 2004
WO 03037999	Α	08-05-2003	EP	1308484 A1	07-05-2003
			BR	0213559 A	26-10-2004
			CA	2462927 A1	08-05-2003
			EG	23246 A	29-09-2004
			WO	03037999 A1	08-05-2003
			EP	1448723 A1	25-08-2004
			HR	20040434 A2	31-08-2004
EP 1295888	Α	26-03-2003	EP	1295888 A1	26-03-2003
			WO	03027124 A1	03-04-2003
			EP	1427736 A1	16-06-2004
			US	2005014963 A1	20-01-2005
WO 03027124	Α	03-04-2003	EP	1295888 A1	26-03-2003
			WO	03027124 A1	03-04-2003
			EP	1427736 A1	16-06-2004
			US	2005014963 A1	20-01-2005
WO 0077102	Α	21-12-2000	AT	246229 T	15-08-2003
			AU	5061800 A	02-01-2001
			CN	1370205 T	18-09-2002
			DE	60004248 D1	04-09-2003
			DE	60004248 T2	15-04-2004
			WO	0077102 A1	21-12-2000
			EP	1208167 A1	29-05-2002
			JP	2003502473 T	21-01-2003
			NO	20015695 A	08-02-2002